

## CLAIMS

That which is claimed is:

1. A vascular occlusion coil deployment system for use in  
5 placing a coil at a preselected site within a vessel comprising:
  - an elongated flexible positioning member having a lumen  
extending therethrough and having proximal and distal ends;
  - an embolic coil;
  - an elongated flexible delivery member being slidably  
10 positioned within the lumen of the positioning member and having  
proximal and distal ends;
  - a heating element mounted on the distal end of the delivery  
member;
  - a non-optical energy transmission conductor extending  
15 through the lumen of the positioning member and extending from  
the proximal end to the distal end of the delivery member, said  
energy transmission conductor being coupled to said heating  
element; and,
  - a non-metallic heat responsive coupling member coupled to  
20 the heating element and coupled to the embolic coil, said heat  
responsive coupling member exhibits the characteristic of, upon  
being heated, releasing the embolic coil at the preselected site.

2. A vascular occlusion coil deployment system as defined in Claim 1, wherein said heating element is an electrically heated coil.

5 3. A vascular occlusion coil deployment system as defined in Claim 2, wherein the yield strength of said heat responsive coupling member is reduced when heated.

10 4. A vascular occlusion coil deployment system as defined in Claim 2, wherein said heat responsive coupling member is bonded to the embolic coil and wherein the yield strength is reduced when heated.

15 5. A vascular occlusion coil deployment system as defined in Claim 1, wherein the yield strength of said heat responsive coupling member is reduced at least 50 percent when heated to about 65 degrees Celsius.

20 6. A vascular occlusion coil deployment system as defined in Claim 1, wherein said heat responsive coupling member is bonded to the embolic coil and wherein the yield strength is reduced at least 50 percent when heated to about 65 degrees Celsius.

7. A vascular occlusion coil deployment system as defined in Claim 1, wherein said heat responsive coupling member is adhesively bonded to the embolic coil and wherein the yield strength is reduced at least 50 percent when heated to about 65 degrees Celsius.

8. A vascular occlusion coil deployment system as defined in Claim 1, wherein said coupling member is formed of a polymer.

9. A vascular occlusion coil deployment system as defined in Claim 2, wherein said coupling member is formed of a polymer.

10. A vascular occlusion coil deployment system for use in placing a coil at a preselected site within a vessel comprising:

an elongated flexible positioning member having a lumen extending therethrough and having proximal and distal ends;

an embolic coil;

an elongated flexible delivery member having a lumen extending therethrough and being positioned within the lumen of the positioning member and having proximal and distal ends;

a heating element mounted on the distal end of the delivery member;

a non-optical energy transmission conductor extending through the lumen of the delivery member and extending from the

proximal end to the distal end of the delivery member, said energy transmission conductor being coupled to said heating element; and,

5 a non-metallic heat responsive coupling member coupled to the heating element and coupled to the embolic coil, said heat responsive coupling member exhibits the characteristic of, upon being heated, releasing the embolic coil at the preselected site.

11. A vascular occlusion coil deployment system as defined in  
10 Claim 10, wherein said heating element is an electrically heated coil.

12. A vascular occlusion coil deployment system as defined in  
Claim 11, wherein the yield strength of said heat responsive  
15 coupling member is reduced at least 50 percent when heated to about 65 degrees Celsius.

13. A vascular occlusion coil deployment system as defined in  
Claim 10, wherein said coupling member is formed of a polymer.